

BRIEF DIRECTIONS

For the Use and Keeping of Heifer-transmitted

COWPOX VIRUS.

ANIMAL VACCINE VIRUS has some peculiarities which involve a little greater care to insure success in its use than is necessary with lymph from the arm. It is earnestly urged, therefore, that our correspondents DO read this ENTIRE circular, but if this should be inconsistent with their leisure or inclination, it is still HOPED that they will read and ponder the explicit directions numbered one to seven, and follow the practice they indicate.

1. Vaccinate by making, with the ivory "lancet point" or a clean lancet, two groups of scratches or very slight incisions, so slight that little or no blood shall exude, but rather serum tinged with blood. The "points" are so prepared as to exactly resemble a lancet, and the perfection of vaccination is to use the point itself as the vaccinating instrument, thus avoiding all danger from foul lancets.

2. Be sure that the albumen, in which the Virus is held, on *both* sides of the point, is *thoroughly* dissolved *before* insertion.

3. Wipe from the surface of the little scratches or incisions any film of blood or serum, which may have exuded, just before application of dissolved lymph.

4. Apply the dissolved lymph to and *into* the little incisions, pressing it into them repeatedly with the flat of the point. — To do this *very* thoroughly, will not take thirty seconds, the failure to do it often results in failure of vaccination, and blame to the virus.

5. NEVER, *under any circumstances*, make more than one vaccination with one point. If a lancet is used it should be kept clean and bright, and dipped in *hot* (not warm merely) water and wiped *dry* and *clean* after *every* vaccination.

6. The blood may be allowed to dry "*in situ*," but this is not necessary, it is more elegant and cleanly to wipe it off with a moist napkin, any time after one minute after the operation is completed.

PRESERVATION OF VIRUS.

7. Keep it DARK, DRY and COOL, no matter how cold, or indeed how many degrees below zero, but avoid great heat even when dry or any degree of heat *and* moisture.

Avoid vaccinating machines, and the many traps which in this, as in other departments of Medicine, seek to substitute machinery and apparatus for brains, learning and skill.

HEIFER-TRANSMITTED COWPOX VIRUS.

MORE DETAILED DIRECTIONS,

Containing much that is thought to be of the utmost importance.

"CITO, TUTE, ET FUCUNDE."

The following method of vaccination was adopted, after a most careful and extended trial of all known methods, in 1859, in March of which year, an article from Dr. Martin appeared in the Boston Medical and Surgical Journal, strongly recommending it as the most expeditious, economical, surest and least painful method of performing this trifling, yet infinitely important operation. The immense experience of the years since 1859, have only confirmed Dr. Martin's conviction that there is no better method; none so good.

Make, with the point of a clean, sharp lancet, some groups of transverse scratches, or rather, very delicate incisions. The number of these will vary according as few or many vesicles are considered necessary. Four at least should be not only tried for *but obtained*, to insure anything like thorough vaccination with the long-humanized virus, but two vesicles will be entirely sufficient, if true Heifer-transmitted Cowpox Virus is used, AND NO MORE ARE RECOMMENDED. The length of the individual scratches will determine, of course, the size of the resulting vesicle and the soreness of the arm.

The following rough sketch gives an idea of the character of the little groups of miniature incisions, their usual size and proper distance from each other.



The incisions should be so slight as barely to result in the faintest possible exudation of blood, and THAT only after the lapse of a second or two; but, if a greater flow of blood DOES ensue, the operation will be no less certain in its results, although a little neatness will have been needlessly sacrificed. The animal vaccine virus, or rather the animal albumen in which it is contained, is not nearly so soluble either in water or blood or serum as the humanized, and *much greater* care is necessary to ensure its perfect solution than is at all necessary with the old lymph.

The best mode of dissolving the dried albumen and virus on the point is by slightly wetting a part of it with the point of a *clean* finger, dipped in cold or tepid water, then with the flat of the *clean* lancet, or of another CLEAN ivory point, rub up the water with the dried virus till, partly mechanically and partly by solution, a mucilaginous mixture is obtained. The difficulty with which bovine albumen (glue in fact) dissolves in cold water is well known and easily accounts for the failure which some physicians complain of. If the albumen on the points is not dissolved and fully applied to the incised surfaces, vaccination will be often futile, however fresh and vigorous the virus. A perfect illustration of this is the fact that

some of Dr. Martin's correspondents have had more or less virus from almost every heifer vaccinated since 1870, and have never reported a failure, while others, (generally elderly physicians who often seem to feel insulted at any attempt at instruction) whose returned points indicate an utter failure to dissolve virus, are continually reporting ill success, and it is to be feared, always *will*. They cannot perceive that the fault is not in the virus, but in the men who use it and the manner in which it is used.

The reason that Cowpox Virus is said, by some, not to succeed well in primary vaccination of *infants*, is because with them it is not so easy to *fully* apply the dissolved virus to the cut surfaces and to rub it thoroughly in. Dr. Martin does not remember a case of failure in many hundreds of primary vaccinations of adults which he has made, nor, now that he *insists* on thorough work, notwithstanding the shrinking of babies and sympathetic mothers, does he have any failures with infants; nor does he *hear* of any such when sufficient care and a little time is taken. When proper care is taken, *invariable* success follows the use of good, fresh Cowpox Virus in primary vaccination, and a percentage of specific vaccinal effect, in re-vaccination never dreamed of when the effete, long humanized virus and "arm-to-arm" method were alone employed.

To that group of scratches or incisious from which blood first exudes, the charged end of a point, the virus on which has been previously moistened and dissolved by the addition of a particle of cold or tepid water, is to be applied; the particles of blood with the lymph in solution is to be then taken up on the point, applied to, smeared over, and **PRESSED INTO** the other scratches in succession, two or three times. The usual precautions as to allowing the blood to dry on the scratches, etc., are unnecessary; indeed, as a matter of neatness, I usually wipe it away with the moist corner of a napkin or rag, before leaving the patient. The advantages of this method of vaccination are, that so far from being **PAINFUL**, it is, if properly performed, absolutely pleasurable, producing a slight tickling sensation. It is very **CERTAIN**, on account of the great number of points at which the virus is brought into contact with abraded cutis, and it can be performed with the utmost **CELERITY**, a consideration sometimes of no small importance.

As to the instrument to be used, the very best is the ivory point itself, the next best a *clean* lancet, **NEVER USED EXCEPT FOR VACCINATING**, the point of which has been ground to a rounded instead of an acute point. Dr. Martin's ivory points are peculiar. By machinery, contrived for this especial purpose, the end of each point is thinned down so as to exactly resemble the point of a good lancet. Dr. Martin's object in this was to entirely avoid possible harm from a foul lancet or a needle, on which remains, however little, of the blood of a previous vaccinee. With one of these points, used as a lancet, *just* the proper sort of scratches can be obtained; those, namely, in which the *tint* of blood is seen, but from which no red blood, but only a little slightly tinged serum exudes. If a lancet is used, keep it bright and clean; if vaccinating many, have a bowl of *hot* water at hand, and in this, after every vaccination, dip the lancet and then wipe it *clean* and *dry* before the next patient is approached. By having two or more lancets this can be done without any loss of time.

NEVER USE A SINGLE POINT FOR MORE THAN ONE VACCINATION. If this abominable and very common malpractice is committed there can be no security whatever that syphilis or erysipelas or any other communicable disease may not be conveyed in the blood of a past vaccinee, no matter how pure and perfect the virus employed. Avoid all the vaccination gimeracks invented usually by men who are not physicians, and by men who bear

that name and find the invention of a "vaccinator" a cheap way of advertising themselves. All such inventions only lead to a too hasty, careless and very uncertain way of vaccinating, and are, most of them, only applicable to a form of virus by no means the best, viz, the dissolved scab. They cannot be kept thoroughly clean, and are generally kept in a fearfully foul state. There is no doubt that a multitude of "bad cases" are traceable to vaccinating by machinery.

PRESERVATION OF LYMPH, WHETHER HUMANIZED OR ANIMAL

Keep it cool, dry, and from the action of light. In small quantities a vial with a tight rubber or cork stopper, in the corner of the ice chest, or, failing that, of a cool cellar, will answer very well. Large quantities may be well kept, in similar localities, in any of the numerous self-sealing contrivances for preservation of meat, fruit, &c., which close on a rubber "washer." No known degree of cold injures virus, notwithstanding the "*authorities*." The cooler you keep it the better. Heat and moisture, the great elements of decomposition of animal and vegetable matter, are the two great obstacles to the preservation of vaccine virus. Keep what virus you are going to use for the day in a pocket of your prescription or pocket-book in an *outside* pocket, even in cool weather. Many a failure in vaccination has been traced to virus being kept, as very precious, in the inner pocket of a waistcoat, just over the warm, benevolent heart of a far-driving country doctor, and covered by the multiform thicknesses of coat, overcoat and shawl, only too necessary to protect the poor son of Æsculapius from congelation. (*En passant*, people in the country think half a dollar a *liberal fee* for vaccination; when they make the discovery that four times that amount is a bare and insufficient remuneration for *proper* vaccination, they will stand a better chance of being properly vaccinated with *proper materiel*.) It is best not to keep large quantities of virus on the person, but to draw on the ice chest or cellar as it is wanted for use.—A great deal of *pseudo-science* and charlatantry has been expounded on this matter of preservation of virus—chloride of calcium, alum, plaster of Paris, unslacked lime, charcoal, &c., &c., in various ways to abstract moisture. This nonsense is hardly worth alluding to. It is all needless, but if anyone sees fit to use anything of the sort, he may fold up his virus in the form of a "powder," and enclose this in a mixture of powdered charcoal and chloride of lime and feel sure that he has attained whatever benefit there may be in any such methods, and will perhaps sleep less disturbed by those fearful "bacteria" than he might otherwise do.

In conclusion, we would, as always before, express our willingness to answer any proper questions on the use of animal vaccine, and shall be much obliged for any data, statistical or other, regarding its use; also every account of unusual phenomena attending vaccination. Particularly do we desire reports of cases of erysipelas, with history, full and *exact*, of age, condition, and form of virus employed; and also of cases of small pox, in any form or degree *after fourteen days* after successful re-vaccination, with either animal or humanized virus.

HENRY A. MARTIN & SON,

27 DUDLEY STREET,

BOSTON, MASS.

HENRY A. MARTIN, M. D. (HARV. 1845.)

STEPHEN C. MARTIN, M. D. (HARV. 1874.)